

For each question, you need to find the answer and show your work. Each problem is worth 3 points: one for the correct answer and two for showing your work. For some problems, you may just need to write out how you know you have the correct answer.

For questions 1-4, name the odds in favor of accomplishing the task.

1. Rolling a 6 on a six-sided die.

2. Rolling the sum of a 7 when two dice are rolled at the same time.

3. Rolling a sum of either 7 or 11 when two dice are rolled at the same time.

4. Choosing either an ace or a king from a standard deck of playing cards.

For questions 5-7, name the odds against accomplishing the task.

5. Picking an ace or a ten from a standard deck of cards.

6. Picking a red marble from a bag containing 10 white, 8 blue, and 2 red marbles.
7. Rolling a double on a roll of two dice.
8. The *odds* against a particular student getting an A in a course are 8 to 1. What is the *probability* that the student will get an A in the course?
9. Based on past performances, the *probability* of a team winning a game is $\frac{3}{5}$. What are the *odds* in favor of the team winning the game?

Open-Ended Question: Write your answer on separate sheet of paper. Make sure as you answer the open-ended question that you show your work AND explain how you know you are doing the correct work. YOU MUST EXPLAIN WHAT YOU ARE DOING!!!

A spinner for a board game has 4 equal sections, numbered 1 through 4.

A. Create a chart, table, or graph to display all possible outcomes from spinning the spinner twice. Then, find the sum of each set of spins.

B. Create a chart, table, or graph to list the odds against each of the possible set. Are some outcomes more likely than others? Use your chart to explain how you know your answer is correct.